



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,448	09/30/2003	Laxmi P. Parida	YOR920030199US1(590.110)	7560

35195 7590 09/06/2006

FERENCE & ASSOCIATES
409 BROAD STREET
PITTSBURGH, PA 15143

EXAMINER

TRAN, MAI T

ART UNIT PAPER NUMBER

2129

DATE MAILED: 09/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/676,448	Applicant(s) PARIDA ET AL.	
	Examiner Mai T. Tran	Art Unit 2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

REMARKS

Applicants' amendment dated June 26, 2006 responding to the March 24, 2006 Office Action provided in the rejection of claims 1-9, wherein claims 1, 5, and 9 have been amended. Claims 1-9 remain pending in the application and which have been fully considered by the examiner.

The Examiner withdraws the objection to the specification for the minor informalities corresponding to Applicants' amendment.

CLAIM REJECTIONS - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims **1-9** are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.

The claimed invention must be for a practical application by:

1. transforming (physical thing) or
2. having the FINAL RESULT (not the steps) achieve or produce a useful (specific, substantial, AND credible) concrete (substantially repeatable/non-unpredictable), AND tangible (real world/non-abstract) result.

A claim that is so broad that it reads on both statutory and non-statutory subject matter, must be amended, and if the specification discloses a practical application but the claim is broader than the disclosure such that it does not require the practical application, then the claim must be amended.

In the present case, independent claims 1, 5, and 9 are directed to a system, a method, and a program storage device for classifying objects. Specifically, claim 1 is directed to a system comprising: "an arrangement for formulating a query to identify objects having properties of interest; and arrangement for selecting properties of the objects to compare with object properties included in the query; and an arrangement for determining if based on the selected properties if object belongs in the query." An invention that is a combination of the above recited steps has no specific purpose or use.

The Examiner reads the claims carefully to search for limitations to practical applications and finds no final result achieved or produced a useful, concrete and tangible result. The claimed invention of classifying objects has no real world function and is not statutory.

CLAIM REJECTIONS - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-9 are rejected under 35 U.S.C. §112, first paragraph because current case law (and accordingly, the MPEP) require such a rejection if a §101 rejection is given because when Applicant has not in fact disclosed the practical application for the invention, as a

Art Unit: 2129

matter of law there is no way Applicant could have disclosed *how* to practice the *undisclosed* practical application. This is how the MPEP puts it:

("The how to use prong of section 112 incorporates as a matter of law the requirement of 35 U.S.C. §101 that the specification disclose as a matter of fact a practical utility for the invention.... If the application fails as a matter of fact to satisfy 35 U.S.C. §101, then the application also fails as a matter of law to enable one of ordinary skill in the art to use the invention under 35 U.S.C. §112."); In re Kirk, 376 F.2d 936, 942, 153 USPQ 48, 53 (CCPA 1967) ("Necessarily, compliance with § 112 requires a description of how to use presently useful inventions, **otherwise an applicant would anomalously be required to teach how to use a useless invention.**") See, MPEP 2107.01(IV), quoting In re Kirk (emphasis added).

Therefore, claims 1-9 are rejected on this basis.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims **4 and 8** recite the limitation "the boolean express" in lines 1-2 and lines 16-17 respectively. There is insufficient antecedent basis for this limitation in the claim.

CLAIM REJECTIONS - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims **1-9** are rejected under 35 U.S.C. 102(b) as being anticipated by "Classification to Ordinal Categories Using a Search Partition Methodology with An Application in Diabetes Screening", by Roger J. Marshall, Statistics In Medicine, 1999, hereafter Marshall.

Claim 1

Marshall teaches a system for classifying objects, the system comprising:

an arrangement for formulating a query to identify objects having properties of interest (page 2724, paragraph 2);

an arrangement for selecting properties of the objects to compare with object properties included in the query (pages 2724-2726, paragraph 3); and

an arrangement for determining if based on the selected properties if object belongs in the query (pages 2724-2726, paragraph 3).

Claim 2

The system of claim 1, wherein the selection of properties of objects to compare with object properties included in the query is made determined in conjunction with a determination of the boolean expression of the properties (page 2727, paragraph 4.2).

Claim 3

The system of claim 2, wherein the boolean expression is an optimized expression of the expression that best defines the query (page 2728, paragraph 5.1).

Claim 4

The system of claim 3, wherein the optimization of the boolean express is accomplished by minimizing the error of the expression which defines the query (page 2729, paragraph 5.1).

Claims 5-8

This is a method version of the claimed system discussed above, in claims 1-4, wherein all claimed limitations have also been addressed and cited as set forth above.

Claim 9

This is a computer program product version of the claimed system discussed above in claim 1, wherein all claimed limitations have also been addressed and cited as set forth above.

RESPONSE TO ARGUMENTS

- **Rejection under 35 U.S.C. §101 and rejection under 35 U.S.C. § 112, first paragraph**

Applicants' arguments filed have been fully considered but they are not persuasive.

Specifically, applicants argues that:

Argument 1

Claims 1-9 stand rejected under 35 U.S.C. § 101 as being directed towards non-statutory subject matter. The independent claims have been amended to address this issue. Reconsideration and withdrawal of the rejection is respectfully requested.

Applicants assert their claims are statutory based on mere amendment "using a computer" in the preamble and not specific claim limitations. Applicants are reminded that a claim invention must be "**limited to**" a practical application not merely related to them. Applicants simply left their claims unlimited and abstracted from any particular practical application, as opposed to actually presenting claim limitations denoting the practical application.

Examiner reads the claims carefully to search for limitations to practical applications and finds none. In Examiner's opinion, the claims are devoid of statutory matter and Applicants have presented no statutory matter to change this assessment.

Accordingly, Applicants have failed to carry their burden of showing how the claims are statutory. On this basis, Examiner finds Applicants' argument to be unpersuasive and the rejections STAND.

Art Unit: 2129

- **Rejection under 35 U.S.C. § 112, second paragraph**

Argument 2

Claims 4 and 8 also stand rejected under 35 U.S.C. 112, second paragraph for lacking antecedent basis. However, claim 4 depends upon claim 3, which depends upon claim 2, which in turn depends upon independent claim 1. Claim 2 introduces the idea of a boolean expression, which is further narrowed in claim 3, and subsequently in claim 4. Claim 8 follows a similar pattern. Thus, Applicant is unclear in what way the limitation of “the boolean expression” lacks antecedent basis. Thus, the rejection is respectfully traversed. Reconsideration and withdrawal of this rejection is respectfully requested.

Applicants are directed to page 6 of the Office Action dated March 24, 2006 as well as the rejection above in this Office Action. Claims 4 and 8 are rejected under 35 U.S.C. 112, second paragraph because they recite the limitation “**the boolean express**” (emphasis added). While claim 2 introduces the idea of “a boolean expression”, there is no “**boolean express**” in any claims 1, 2, or 3. Therefore, there is insufficient antecedent basis for this limitation in the claims.

- **Rejection under 35 U.S.C. §102(b)**

Argument 3

Marshall does not discuss or disclose optimization of the boolean expression which defines the query. Rather, Marshall discusses binary partitions of ordinal data, and the nesting of those partitions. Further, there is no minimization of the error of the expression, let alone analysis of such error.

During patent examination, the claims are given the broadest reasonable interpretation consistent with the specification. See *In re Morris*, 127 F.3d 1048, 44 USPQ2d 1023 (Fed. Cir.

Art Unit: 2129

1997). The Examiner disagrees with the above argument. Marshall does teach optimization of the boolean expression which defines the query. Marshall teaches that partitions are formed by boolean expressions (page 2727, paragraph 4.2), and Marshall also teaches the optimal partition (page 2728, paragraph 5.1). Therefore, Marshall teaches optimization of the Boolean expression.

Marshall also teaches minimization of the error of the expression. On page 2729, in the description of Table I, the Examiner asserts “false positive and false negative costs” as the error of the expression. In the middle of page 2729, the Examiner asserts “that decreases the number of false negatives ...” as minimization of the error of the expression.

Argument 4

Regarding the rejection of independent claims 1, 5, and 9 the Examiner cites the SPAN approach to classification, using a binary approach to classify ordinal data. This is in stark contrast the independent invention, which has no such limitations as to type of data or to a binary approach. Specifically, the independent invention states a method of “identifying properties of objects, formulating a query to identify objects having properties of interest, selecting properties of the objects to compare with object properties included in the query, and determining if based on the selected properties if the object belongs in the query.”

In response to the above argument that “the invention has no such limitations as to type of data or to a binary approach.” Since the term “objects” (i.e. abstract data in the claimed invention) was not further defined in the claims, the applied art still reads on it.

There is no mention of these limitations in the claims and the specification is not the measure of the invention. Therefore, limitations contained therein can not be read into the claims for the purpose of avoiding the prior art; see In re Sprock, 55 CCPA 743, 386 F.2d 924, 155 USPQ 687 (1968).

The Examiner disagrees. Marshall does teach “identifying properties of objects” (page 2724, paragraph 2), “formulating a query to identify objects having properties of interest” (page 2724, paragraph 2), “selecting properties of the objects to compare with object properties included in the query” (page 2724-2726, paragraph 3), and “determining if based on the selected properties if the object belongs in the query” (page 2724-2726, paragraph 3). The Examiner asserts the rule (1) and (2) on page 2724 are queries, which are boolean expressions, the symbols F, T, and U are properties of interest, and the set formed by these properties of interest are objects.

Argument 5

The most immediate failure of the prior art in teaching the invention as claimed is the failure of Marshall to teach a “formulating a query to identify objects having properties of interest” which goes to the heart of the present invention. Rather, Marshall compares all of the Boolean combinations of the data to find a binary partition of the data. This is in no way comparable or suggestive of formulating a query to identify objects having properties of interest.

The Examiner disagrees. Marshall does teach “formulating a query to identify objects having properties of interest” (page 2724, paragraph 2). The Examiner asserts the rule (1) and (2) are queries, which are boolean expressions, the symbols F, T, and U are properties of interest, and the set formed by these properties of interest are objects.

Argument 6

The partition provides a split of the data such that the data is homogenous with respect to one outcome variable. There is no identification of properties of interest in this split, nor is there any suggestion or hint of utilizing more than one property as a basis on which to split the data. Thus, it is respectfully submitted that there is a clear difference between partitioning data to find a homogenous

split of data with respect to one outcome variable and formulating a query to identify objects having properties of interest.

During patent examination, the claims are given the broadest reasonable interpretation consistent with the specification. See *In re Morris*, 127 F.3d 1048, 44 USPQ2d 1023 (Fed. Cir. 1997). The Examiner disagrees. Marshall does teach “formulating a query to identify objects having properties of interest” (page 2724, paragraph 2). The Examiner asserts the rule (1) and (2) are queries, which are boolean expressions, the symbols F, T, and U are properties of interest, and the set formed by these properties of interest are objects.

CONCLUSION

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


CORRESPONDENCE INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mai T. Tran whose telephone number is (571) 272-4238. The examiner can normally be reached on M-F 9:00am-- 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Vincent can be reached on 571-272-3080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

M.T.T
Patent Examiner
Date: 9/01/2006


David Vincent
Supervisory Patent Examiner
Tech Center 2100